CLAIMS

1. A method of producing treated water comprising:

introducing water from a point of entry into an electrochemical device;

removing at least a portion of any undesirable species from the water in the electrochemical device while suppressing hydroxyl ion generation to produce treated water; and

distributing at least a portion of the treated water to a point of use.

2. The method of claim 1, further comprising storing the treated water in a reservoir system.

3. The method of claim 1, wherein removing the at least a portion of any undesirable species while suppressing hydroxyl ion generation comprises applying an electrical current below a limiting current density.

4. The method of claim 1, further comprising measuring at least one water property.

5. The method of claim 4, further comprising adjusting an operating parameter of the electrochemical device based on the measured water property.

6. The method of claim 4, further comprising distributing at least a portion of the treated water to a point of use based on the measured water property.

7. The method of claim 4, further comprising adjusting a flow rate of the water into the electrochemical device based on the measured water property.

8. The method of claim 1, further comprising storing at least a portion the treated water in a pressurized reservoir system.

9. The method of claim 8, wherein storing the treated water in the pressurized reservoir system comprises storing the treated water in a treated water zone of the pressurized reservoir system.

10. The method of claim 1, wherein the electrochemical device comprises an electrodeionization device.

11. A method of producing treated water comprising:

introducing water from a point of entry into an electrochemical device;

applying an electrical current below a limiting current density through the electrochemical device to promote removal of any undesirable species from the water and produce treated water; and

maintaining the electrical current below the limiting current density.

12. The method of claim 11, further comprising storing the treated water in a reservoir system.

13. The method of claim 12, further comprising measuring a water property.

14. The method of claim 13, wherein applying the electrical current comprises adjusting the electrical current based on the measured water property.

15. The method of claim 14, wherein introducing water from the point of entry comprises adjusting a water flow rate based on the measured water property.

16. The method of claim 15, further comprising distributing at least a portion of the treated water to a point of use.

17. A water treatment system comprising:

a reservoir system fluidly connected to a point of entry;

an electrochemical device fluidly connected to the point of entry and the reservoir system;

a power supply for providing an electrical current to the electrochemical device; and

a controller for regulating the electrical current below a limiting current density.

18. The system of claim 17, further comprising a distribution system fluidly connected downstream of the reservoir system and to a point of use.

19. The system of claim 17, further comprising at least one water property sensor.

20. The system of claim 19, wherein the electrochemical device comprises an electrodeionization device.

21. The system of claim 17, wherein the reservoir system is pressurized.

22. A method of facilitating water treatment comprising:

providing a reservoir system fluidly connectable to a point of entry;

providing an electrochemical device fluidly connectable to the reservoir system;

providing a power supply for providing an electrical current to the electrochemical device; and

providing a controller for regulating the electrical current below a limiting current density.